

Amendment to the Claims:

This listing of claims will replace all prior versions, and listing of claims in the application.

Claims 1-9 (Cancelled)

10. (Currently Amended) A method of determining the integrity of a distributed information processing system including a plurality of networked devices, each device including a finite machine (FSM), the method comprising:

performing a primary task in each of the plurality of networked devices, the primary task having a computational requirement that varies over time;

performing a secondary task in each of the plurality of the networked devices, wherein performing the secondary task in a first one of the plurality of the networked devices includes generation, per time step, a respective numerical value that depends on a corresponding numerical value in each of the others of the plurality of networked devices at a previous time step;

receiving, at a control server, update information regarding the state of each of the plurality of networked devices;

simulating, in the control server, the secondary task of each of the plurality of the networked devices, wherein simulating the secondary task in the control server includes generating, per time

step, numerical values for each of the simulated tasks, based at least upon the received update information;

receiving, at the control server, the numerical values generated by the plurality of the networked devices;

determining by the control server whether the received numerical values are equal to the simulated values; and

generating an alert if it is determined that the received numerical values are not equal to the simulated values;

wherein generating the numerical value, per time step, in each of the networked devices, further depends on a history of previous numerical values of the device performing the secondary task, the history has a length, and the length is dynamically modified in inverse relation to the computations requirements of the primary task.

Claims 11-12 (Cancelled)

13. (Previously Presented) The method of Claim 10, wherein generating the numerical value further depends on an internal state of the device performing the secondary task.

14. (Previously Presented) The method of Claim 13, wherein the internal state includes a memory content, and an I/O buffer content of the device performing the secondary task.
15. (Previously Presented) The method of Claim 14, wherein the secondary task is chosen such that the performance of the secondary tasks by networked devices results in the behaviour of a dynamic non-periodic stochastic process.
- 16.(Previously Presented) The method of Claim 15, wherein the control server is geographically remote from the networked devices.